





I forgot page 7 en last focsimile.

**2**001/008

Date:

June 28, 2007

Number of pages (including cover): 8

To:

Examiner Oleg Survillo

US Patent and Trademark Office

Fax No.:

(571) 273-9619

**Serial No.:** 10/622,217-Conf. #4643

Title:

STATE MIGRATION IN MULTIPLE NIC RDMA ENABLED DEVICES

From:

James H. Morris

**Direct dial:** (617) 646-8000

Our File #: M1103.70194US00

#### CERTIFICATE OF FACSIMILE TRANSMISSION 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being transmitted via facsimile to the attention of Examiner Oleg Survillo, US Patent and Trademark Office, FAX number (571) 273.9619, at the United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450, in accordance with 37 C.F.R. §1.6(d), on June 28, 2007.

Inna Vitol

#### ORIGINAL DOCUMENTS WILL NOT BE MAILED.

MESSAGE:

Transmitted herewith is a Proposed Agenda for Examiner Interview

This transmission contains confidential information intended for use only by the above-named recipient. Reading, discussing, distributing, or copyling this message by anyone other than the named recipient, or his or her employees or agents, is strictly prohibited. If you have received this fax in error, please notify us immediately by telephone (collect), and return the original message to us at the address below via the U.S. Postal Service.

IF YOU DID NOT RECEIVE ALL OF THE PAGES OF THIS TRANSMISSION, OR IF ANY OF THE PAGES ARE ILLEGIBLE, PLEASE CALL 617.646.8000 IMMEDIATELY.

#### Wolf Greenfield Fax Number: 617.646.8646

Wolf, Greenfield & Sacks, P.C. | 600 Atlantic Avenue | Boston, Massachusetts 02210-2206 617.646.8000 | fax 617.646.8646 | www.wolfgreenfield.com

PATENTS **TRADEMARKS** COPYRIGHTS TECHNOLOGY TRANSFERS LITIGATION



Docket No.: M1103.70194US00 (PATENT)

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:

Khawar M. Zuberi

Serial No.:

10/622,217

Confirmation No.:

4643

Filed:

July 18, 2003

For:

STATE MIGRATION IN MULTIPLE NIC RDMA ENABLED

**DEVICES** 

Examiner:

O. Survillo

Art Unit:

2109

Certificate of Transmission Under 37 CFR 1.8

I hereby certify that this paper (elong with any paper referred to as being attached or enclosed) is being transmitted by facsimile to the Patent and Trademark Office, facsimile no. (571) 273-3872, on the date shown below.

Dated: June 27, 2007

Inna Vit

## PROPOSED AGENDA FOR EXAMINER INTERVIEW

Applicants thank Examiner Survillo for considering a telephone interview. During the interview, Applicants would like to discuss the following issues raised in the Final Office Action of June 4, 2007:

- 1. The objections to the specification on page 5 of the Office Action;
- 2. The rejections of claims 1, 4-7, 15, 18-21 under 35 U.S.C. 102(e) as allegedly being anticipated by Boyd et al. (6,721,806) on pages 6-9 of the Office Action;
- 3. The rejections of claims 2-3, 4-14, 16-17 and 22-28 under 35 U.S.C. 103(a) as allegedly being unpatentable over Boyd et al. (6,721,806) in view of the Internet Draft document "RDMA Protocol Verbs Specification" by Jeff Hilland on pages 9-14 of the Office Action; and
- 4. Claim amendments as proposed below.

Dated: June 27, 2007

Respectfully submitted,

Bv:

James H. Morris, Reg. No. 34,681 Wolf, Greenfield & Sacks, P.C.

600 Atlantic Avenue

Boston, Massachusetts 02210-2206

Telephone: (617) 646-8000

-2-

Docket No.: M1103.70194US00

### PROPOSED CLAIM AMENDMENTS

1. (Currently Amended) A method for transferring control between a first network interface and at least a second network interface in a multiple network interface device, after the first network interface sends an identifier, the identifier associated with a memory location in the multiple network interface device, to a second device, the identifier and an associated data field capable of being received by the second network interface, the method comprising:

receiving a message from the second network interface by a program component, the message indicating the reception of the identifier and the associated data field [[by]] from the second device, wherein the second network identifier has no knowledge of the identifier and the associated data field;

passing the identifier to the program component;

querying the first network interface to supply the program component with a list of identifiers sent by the first network interface and associated memory locations in multiple network interface device memory;

identifying, by the program component, that the first network interface sent the identifier; and

transmitting a memory location associated with the identifier to the second network interface, the second network interface capable of transmitting the associated data field to the memory location associated with the identifier.

- 2. (Original) The method of claim 1 wherein the identifier is invalidated under control of a bit field added to the identifier and the associated data field received from the second device.
- 3. (Original) The method of claim 2 wherein if the identifier has been invalidated, the associated data field is discarded.
- 4. (Original) The method of claim 1 wherein the memory location is random access memory.
- 5. (Original) The method of claim 1 wherein the program component is a computer operating system.

Docket No.: M1103.70194US00

6. (Original) The method of claim 1 wherein the first network interface and the

second network interface operate under a remote direct memory access (RDMA) protocol.

- 7. (Original) The method of claim 1 wherein the first network interface and the second network interface operate under a remote direct memory access (RDMA) protocol over TCP/IP protocol.
- 8. (Currently Amended) A method for transferring control between a first network interface and at least a second network interface in a host computer including the first network interface and the second network interface, the method comprising:

receiving an identifier from a remote computer by the at least a second network interface, the identifier sent by the first network interface and associated with a memory location in the host computer, wherein the second network identifier has no knowledge of the identifier and the associated data field;

sending a message to a program component indicating the reception of the identifier, the program component configured to query the first network interface for a list of identifiers sent by the first network interface and associated memory locations in the host computer;

passing the identifier received from the remote computer to the program component; searching the list of identifiers for the identifier;

if the list of identifiers includes the identifier received from the remote computer, receiving a memory location associated with the identifier; and

if the list of identifiers does not include the identifier received from the remote computer, invalidating the identifier received from the remote computer.

- 9. (Original) The method of claim 8 wherein the identifier is invalidated under control of a bit field added to the identifier and an associated data field received from the remote computer.
- 10. (Original) The method of claim 9 wherein if the identifier has been invalidated, the associated data field is discarded.

- 4 -

Docket No.: M1103.70194US00

- 11. (Original) The method of claim 8 wherein the memory location is random access memory.
- 12. (Original) The method of claim 8 wherein the program component is a computer operating system.
- 13. (Original) The method of claim 8 wherein the first network interface and the second network interface operate under a remote direct memory access (RDMA) protocol.
- 14. (Original) The method of claim 8 wherein the first network interface and the second network interface operate under a remote direct memory access (RDMA) protocol over TCP/IP protocol.
- 15. (Currently Amended) A computer readable medium having stored therein instructions for performing acts for transferring control between a first network interface and at least a second network interface in a multiple network interface device, after the first network interface sends an identifier, the identifier associated with a memory location in the multiple network interface device to a second device, the identifier and an associated data field capable of being received by the second network interface; the acts comprising:

receiving a message from the second network interface by a program component, the message indicating the reception of the identifier and the associated data field [[by]] from the second device, wherein the second network identifier has no knowledge of the identifier and the associated data field;

passing the identifier to the program component;

querying the first network interface to supply the program component with a list of identifiers sent by the first network interface and associated memory locations in multiple network interface device memory;

identifying, by the program component, that the first network interface sent the identifier; and

- 5 -

Docket No.: M1103,70194US00

transmitting a memory location associated with the identifier to the second network interface, the second network interface capable of transmitting the associated data field to the memory location associated with the identifier.

- 16. (Original) The computer readable medium of claim 15 wherein the identifier is invalidated under control of a bit field added to the identifier and the associated data field received from the second device.
- 17. (Original) The computer readable medium of claim 16 wherein if the identifier has been invalidated, the associated data field is discarded.
- 18. (Original) The computer readable medium of claim 15 wherein the memory location is random access memory.
- 19. (Original) The computer readable medium of claim 15 wherein the program component is a computer operating system.
- 20. (Original) The computer readable medium of claim 15 wherein the first network interface and the second network interface operate under a remote direct memory access (RDMA) protocol.
- 21. (Original) The computer readable medium of claim 15 wherein the first network interface and the second network interface operate under a remote direct memory access (RDMA) protocol over TCP/IP protocol.
- 22. (Currently Amended) A computer readable medium having stored therein instructions for performing acts for transferring control between a first network interface and at least a second network interface in a host computer including the first network interface and the second network interface, the method comprising:

receiving an identifier from a remote computer by the at least a second network interface, the identifier sent by the first network interface and associated with a memory location in the

- 6 -

Docket No.: M1103.70194US00

host computer, wherein the second network identifier has no knowledge of the identifier and the associated data field;

sending a message to a program component indicating the reception of the identifier, the program component configured to query the first network interface for a list of identifiers sent by the first network interface and associated memory locations in the host computer;

passing the identifier received from the remote computer to the program component; searching the list of identifiers for the identifier;

if the list of identifiers includes the identifier received from the remote computer, receiving a memory location associated with the identifier; and

if the list of identifiers does not include the identifier received from the remote computer, invalidating the identifier received from the remote computer.

- 23. (Original) The computer readable medium of claim 22 wherein the identifier is invalidated under control of a bit field added to the identifier and the associated data field received from the second device.
- 24. (Original) The computer readable medium of claim 23 wherein if the identifier has been invalidated, the associated data field is discarded.
- 25. (Original) The computer readable medium of claim 22 wherein the memory location is random access memory.
- 26. (Original) The computer readable medium of claim 22 wherein the program component is a computer operating system.
- 27. (Original) The computer readable medium of claim 22 wherein the first network interface and the second network interface operate under a remote direct memory access (RDMA) protocol.

-7-

Docket No.: M1103.70194US00

28. (Original) The computer readable medium of claim 22 wherein the first network interface and the second network interface operate under a remote direct memory access (RDMA) protocol over TCP/IP protocol.